



UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
08/743,002	11/01/96	DAMSOHN	H 027/43042

QM61/0515
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EXAMINER

LEG.L	
ART UNIT	PAPER NUMBER
3743	4

DATE MAILED: 05/15/98

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

OFFICE ACTION SUMMARY

- ☐ Responsive to communication(s) filed on _____
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 D.C. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

- ☒ Claim(s) 1-22 is/are pending in the application.
- Of the above, claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1-22 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claims _____ are subject to restriction or election requirement.

Application Papers

- ☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☒ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.
- ☐ received in Application No. (Series Code/Serial Number) _____
- ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

- ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- ☒ Notice of Reference Cited, PTO-892
- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 3
- ☐ Interview Summary, PTO-413
- ☒ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Notice of Informal Patent Application, PTO-152

- SEE OFFICE ACTION ON THE FOLLOWING PAGES -

BEST AVAILABLE COPY

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8 and 10-22 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hersh in view of Behr (German 94 06 197).

Hersh discloses all the claimed limitations except tubes with lug pairs nor a tube and shell type heat exchanger.

Behr discloses a heat exchanger for cooling exhaust gas comprising a plurality of rectangular tubes 12 composed of tube halves 13 and insert 20 with lug pairs 21, 22 for the purpose of improving heat exchange.

Since Hersh and Behr are both from the same field of endeavor, the purpose disclosed by Behr would have been recognized in the pertinent art of Hersh.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Hersh lug pairs for the purpose of improving heat exchange as recognized by Behr.

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The Examiner takes Official Notice of tube and shell type heat exchangers having a metal jacket with an inlet and outlet and flanges plates for the purpose of transferring heat between two closed system fluids.

Regarding claims 2-8, the specific method limitations (i.e. welded, molded, etc.) in the apparatus claims bear no patentable weight in this instance.

Regarding claim 10, the specific fastening connection and location is considered to be an obvious design expedient, which produces no new and/or unexpected results and solves no stated problem.

Regarding claims 11-12, the specific location and positioning of the coolant inlet and outlet is considered to be an obvious plumbing design.

Regarding claims 17-19, the recitation of "joint connections" is read as any connection by metal diffusion or fastening. Further regarding claim 17, it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. Nerwin v. Erlichman, 168 USPQ 177, 179.

Claim 9 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Hersh in view of Behr as applied to claims 1-8 and 10-22 above, and further in view of Kun et al.

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The device of the combination of Hersh and Behr lacks spacing elements.

Kun et al discloses a heat exchanger comprising a tube bottom 8 and a plurality of tubes 1 with spacing elements 17 for the purpose of strengthening the heat exchanger and improving heat exchange.

Since Hersh and Kun et al are both from the same field of endeavor, the purpose disclosed by Kun et al would have been recognized in the pertinent art of Hersh.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Hersh tube pacing elements for the purpose of strengthening the heat exchanger and improving heat exchange as recognized by Kun et al.

Claims 15-16 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 15 recites the limitation "the holding webs" in line 3. There is insufficient antecedent basis for this limitation in the claim

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Claim 19 recites the limitation "the threaded sleeves" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 16 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112 set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The prior art made of record and not relied upon is considered pertinent to applicants' disclosure.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103 and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Any inquiry concerning this communication should be directed to Leonard R. Leo whose telephone number is (703) 308-2611.

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Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center 3700 receptionist whose telephone number is (703) 308-0861.



LEONARD R. LEO
PRIMARY EXAMINER
ART UNIT 3743

May 11, 1998